The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

- 1. A method of bleaching pulp, comprising:
- (a) introducing a source of magnesium ions and hydroxyl ions to a refiner;
 - (b) introducing a source of perhydroxyl ions to a refiner; and
 - (c) refining wood particulates into pulp in said refiner.
- 2. The method of Claim 1, wherein the source of said magnesium ions and hydroxyl ions is a slurry of magnesium oxide and water.
- 3. The method of Claim 1, wherein the source of magnesium ions and hydroxyl ions is added to the wood particulates prior to the refiner.
- 4. The method of Claim 1, wherein the source of magnesium ions and hydroxyl ions is added at the refiner.
- 5. The method of Claim 1, wherein the refiner is a primary refiner in a twoor multi-stage refining system.
- 6. The method of Claim 1, wherein a chelating agent is added to the wood particulates prior to the refiner.
- 7. The method of Claim 1, wherein the refiner is a secondary refiner in a two-stage refining system.
- 8. The method of Claim 1, wherein the source of perhydroxyl ions is hydrogen peroxide.
- 9. The method of Claim 1, wherein the source of perhydroxyl ions is added to the wood particulates prior to the refiner.
- 10. The method of Claim 1, wherein the source of perhydroxyl ions is added at the refiner.

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11. The method of Claim 1, further comprising retaining said pulp within a vessel after refining for about 45 to about 120 minutes.

- 12. The method of Claim 11, further comprising introducing a source of perhydroxyl ions to said vessel.
- 13. The method of Claim 12, further comprising refining said pulp in a secondary refiner after retention in the vessel.
- 14. The method of Claim 13, wherein a source of magnesium ions and hydroxyl ions is added to said secondary refiner.
- 15. The method of Claim 14, wherein a source of perhydroxyl ions is added to said secondary refiner.
 - 16. The method of Claim 1, wherein said pulp is a mechanical pulp.
 - 17. The method of Claim 1, wherein said pulp is a chemical pulp.
 - 18. The method of Claim 1, wherein said pulp is a recycled pulp.
- 19. The method of Claim 1, wherein said pulp has a consistency of about 3% to about 20%.
- 20. The method of Claim 1, wherein said pulp has a consistency of about 15% to about 50%.
- 21. The method of Claim 1, wherein the refiner is a low to medium consistency refiner.
- 22. A method of bleaching mechanical pulp in a two-stage refiner system, comprising:
- (a) introducing a source of magnesium ions and hydroxyl ions to a primary refiner;
 - (b) refining wood particulates into pulp in said primary refiner;
- (c) retaining said refined pulp within a vessel after primary refining for about 45 to about 120 minutes;

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- (d) introducing a source of perhydroxyl ions to said vessel; and
- (e) refining said pulp in a secondary refiner after retention in said vessel to produce a bleached mechanical pulp.
- 23. The method of Claim 22, further comprising introducing a source of magnesium ions and hydroxyl ions to the secondary refiner.
- 24. The method of Claim 22, further comprising introducing a source of perhydroxyl ions to the primary refiner.
- 25. The method of Claim 22, further comprising introducing a source of perhydroxyl ions to the secondary refiner.
- 26. The method of Claim 22, wherein the bleached mechanical pulp has an ISO brightness value of about 50 to about 75 or greater.
- 27. The method of Claim 22, wherein the bleached mechanical pulp has a Canadian Standard Freeness value of about 60 to about 200.